

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) At a computer system that is network connectable to a messaging server, the computer system configured to provide user access to data stored at the messaging server, a method for requesting data that provides an improved user experience when the messaging server is experiencing increased load, the method comprising:

an act of computer system sending a data request to the messaging server, the data request requesting that message related data for a user of the computer system be returned from the messaging server to the computer system;

an act of receiving a server response responsive to the data request from the messaging server, the server response including an adaptively generated wait hint generated at the messaging server, the adaptively generated wait hint being an indication that the messaging server was unable to process the data request and indicating that the computer system is to wait a specified wait time before sending another data request requesting the message related data for the user, the adaptively generated wait hint generated by a wait hint generation algorithm at the messaging server, the wait hint generation algorithm configured to adaptively generate a wait hint ~~for each time the data request requesting message related data for the user is received at the messaging server but not processed, attempt in a plurality of attempts to send the data request~~ each wait hint generated based on how many times the data request was previously received at the messaging server but not processed prior attempts to send the data request have occurred, up to a specified number of ~~attempts times after which the next~~ data request is processed at the messaging server to return the message related data for the user, ~~each wait hint including an indicated wait time indicating an amount of time the computer system is to wait before attempting to resend the data request, each wait hint generated;~~

an act of waiting a ~~the~~ specified wait time before resending the data request requesting message related data for the user to thereby reduce the load on the messaging server, ~~the specified wait time based on the indicated wait time; and~~

an act of resending the data request requesting message related data for the user subsequent to waiting the specified wait time.

2. (Original) The method as recited in claim 1, wherein the act of sending a data request to the messaging server comprises an act of sending a synchronization request.

3. (Original) The method as recited in claim 1, wherein the act of sending a data request to the messaging server comprises an act of issuing an RPC call.

4. (Original) The method as recited in claim 1, wherein the act of receiving a server response including an adaptively generated wait hint comprises an act of receiving a buffer from the server in response to an RPC call.

5. (Original) The method as recited in claim 4, wherein the act of receiving a buffer from the server in response to an RPC call comprises an act of receiving a buffer that includes an error code and a corresponding wait hint, the error code indicating that the server was busy.

6. (Currently Amended) The method as recited in claim 1, further comprising:
~~an act of generating the specific wait time by randomizing the indicated wait time with a threshold time of the indicated wait time, the specified wait time differing from the indicated wait time such that a number of clients receiving the adaptively generated wait hint resend data requests at different times.~~

an act of the computer system randomizing the specified wait time included in the adaptively generated wait hint received from the server to reduce the chances of resending the next request requesting message related data for the user at the same time as one or more other different computer systems that also received the adaptively generated wait hint in response to requesting data from the messaging server; and

wherein the act of waiting the specified wait time before resending the data request requesting message related data for the user comprises the act of waiting the randomized specified wait time before resending the data request; and

wherein the act of resending the data request requesting message related data for the user subsequent to waiting the specified wait time comprises an act of resending the data request subsequent to waiting randomized specified wait time

7. (Currently Amended) The method as recited in claim 1, wherein the act of waiting a specified wait time in accordance with the adaptively generated wait hint comprises an act of utilizing applying the wait hint to ~~at a client side algorithm module~~ that attempts to improve user experience when interacting with the messaging server ~~reduce the load at the messaging server.~~

8. (Original) The method as recited in claim 1, wherein the act of resending the data request subsequent to waiting the specified time comprises reissuing an RPC call that was originally issued to send the data request.

9. (Original) The method as recited in claim 1, further comprising:
an act of receiving a synchronization command from a user.

10. (Currently Amended) The method as recited in claim 1, further comprising:
an act of receiving a second server response including a second adaptively generated wait hint subsequent to resending the data request after the specified wait time, the second adaptively generated wait hint being an indication that the messaging server was unable to process the resent data request requesting message related data for the user, the second adaptively generated wait hint having a second different indicated wait time differing from the indicated wait time;
an act of waiting a second specified wait time before again resending the data request to thereby reduce the load on the messaging server, the second specified wait time based on the second different indicated wait time; and
an act of again resending the data request subsequent to waiting the second specified wait time.

11. (Currently Amended) The method as recited in claim 1, further comprising:

an act of receiving message related data for the user corresponding to the data request subsequent to resending the data request; and

an act of updating a message interface to reflect that the message related data was received.

12. (Currently Amended) The method as recited in claim 1, further comprising:

an act of causing a message interface at the computer system to indicate that the data request is ~~still-being processed notwithstanding that~~ so as to not give the user an impression that the messaging server was to busy to process the data request, even though the messaging server returned an adaptive wait hint in response to the data request ~~was unable to process the data request.~~

Claim 13. (Cancelled).

14. (Currently Amended) At a computer system that is network connectable to a plurality of different clients, the computer system configured to process client data requests for user messaging data maintained at the computer system and return appropriate user messaging data to corresponding requesting clients, a method for regulating client requests so as to provide an improved user experience when the messaging server is experiencing increased load, the method comprising:

an act of receiving a client data request from a client, the client data request requesting that message related data for a user of the client be returned to the client;

an act of determining that the computer system is unable to process the client data request based on the current load of computer system, the current load indicative of resource consumption at the computer system as a result of the computer system sending message related data to other clients from among the plurality of different clients, the determination made subsequent to receiving the client data request;

an act of adaptively generating a wait hint for return to the client, the adaptively generated wait hint including an indicated wait time, the wait time indicating an amount of time to the client that the client is to wait before resending the client data request requesting message related data for the user to the computer system to thereby reduce the load at the computer system, the adaptively generated wait hint generated by a wait hint generation algorithm, the wait hint generation algorithm configured to adaptively generate a wait hint ~~for each~~ time the client data request requesting message related data for the user is received but not processed ~~attempt in a plurality of attempts to send the data request based on how many times the client data request was previously received but not processed prior attempts to send the data request have occurred,~~ up to a specified number of ~~attempts~~ times after which the data request is to be processed; and

an act of sending a server response that includes the adaptively generated wait hint to the client to indicate to the client to wait the indicated wait time before resending the client data request requesting message related data for the user.

15. (Original) The method as recited in claim 14, wherein the act of receiving a client data request from a client comprises an act of receiving a synchronization request.

16. (Original) The method as recited in claim 14, wherein the act of receiving a client data request from a client comprises an act of receiving an RPC call.

17. (Original) The method as recited in claim 14, wherein the act of determining that the computer system is unable to process the client data request comprises an act of determining that the computer system lacks the resources to process the client data request in parallel with other requests that are being processed.

18. (Original) The method as recited in claim 14, wherein the act of determining that the computer system is unable to process the client data request comprises an act of determining that the computer system is already processing a configured maximum number of requests that can be processed in parallel.

19. (Previously Presented) The method as recited in claim 14, wherein the act of adaptively generating a wait hint comprises an act of varying the indicated wait time between successive adaptively generated wait hints in accordance with the wait hint generation algorithm.

20. (Previously Presented) The method as recited in claim 19, wherein the act of varying the indicated wait time between successive adaptively generating wait hints in accordance with the wait hint generation algorithm comprises an act of increasing the indicated wait time for each successive wait hint corresponding to the same data request.

21. (Previously Presented) The method as recited in claim 19, wherein the act of adaptively generating a wait hint comprises an act of generating a wait hint in accordance with a wait hint generation algorithm that accesses external configurable parameter values.

22. (Original) The method as recited in claim 14, wherein the act of adaptively generating a wait hint comprises an act of generating a wait hint for a data request based on the connection speed of the client that sent the data request.

23. (Original) The method as recited in claim 14, wherein the act of sending a server response that includes the adaptively generated wait hint to the client comprises an act of sending a buffer to the client in response to an RPC call.

24. (Original) The method as recited in claim 23, wherein the act of sending a buffer to the client in response to an RPC call comprises an act of sending a buffer that includes an error code and a corresponding wait hint, the error code indicating that the server was busy.

25. (Previously Presented) The method as recited in claim 14, further comprising:

- an act of receiving a resent client data request from the client, the resent client data request requesting the same data as the client request;

- an act of determining that the computer system is again unable to process the resent client data request, subsequent to receiving the resent client data request;

- an act of adaptively generating a second wait hint, the adaptively generated second wait hint including a second indicated wait time indicating a second amount of time the client is to wait before again resending the resent client data request to thereby reduce the load at the computer system, the seconding indicated wait time differing from the indicated wait time in accordance with the configuration of the wait hint generation algorithm; and

- an act of sending a second server response that includes the adaptively generated second wait hint to the client.

26. (Currently Amended) A computer program product for use at a computer system that is network connectable to a messaging server, the computer system configured to provide user access to data stored at the messaging server, the computer program product for implementing a method for requesting data that provides an improved user experience when the messaging server is experiencing increased load, the computer program product comprising one or more computer storage media having stored thereon computer-executable instructions that, when executed by a processor, cause the computer system to perform the following:

send a data request to the messaging server, the data request requesting that message related data for a used of the computer system be returned from the messaging server to the computer system;

receive a server response responsive to the data request from the messaging server, the server response including an adaptively generated wait hint, the adaptively generated wait hint generated at the messaging server, the adaptively generated wait hint being an indication that the messaging server was unable to process the data request and indicating that the computer system is to wait a specified wait time before sending another data request requesting the message related data for the user, the adaptively generated wait hint generated by a wait hint generation algorithm at the server, the wait hint generation algorithm configured to adaptively generate a wait hint for each time the data request requesting message related data for the user is received at the messaging server but not processed, attempt in a plurality of attempts to send the data request each wait hint generated based on how many times the data request was previously received at the messaging server but not processed prior attempts to send the data request have occurred, up to a specified number times of attempts after which the data request is processed at the messaging server to return message related data for the user, each wait hint including an indicated wait time indicating an amount of time the computer system is to wait before attempting to resend the data request;

wait ~~a~~ the specified wait time before resending the data request requesting message related data for the user to thereby reduce the load on the messaging server, ~~the specified wait time based on the indicated wait time;~~ and

resend the data request requesting message related data for the user subsequent to waiting the specified wait time.

27. (Currently Amended) A computer program product for use at a computer system that is network connectable to a plurality of clients, the computer system configured to process client data requests for data maintained at the computer system and return appropriate data to corresponding requesting clients, the computer program product for implementing a method for regulating client requests so as to provide an improved user experience when the messaging server is experiencing increased load, the computer program product comprising one or more computer storage media having stored thereon computer-executable instructions that, when executed by a processor, cause the computer system to perform the following:

receive a client data request from a client, the client data request requesting that message related data for a user of the client be returned to the client;

determine that the computer system is unable to process the client data request, subsequent to receiving the client data request based on the current load of computer system, the current load indicative of resource consumption at the computer system as a result of the computer system sending message related data to other clients from among the plurality of different clients, the determination made subsequent to receiving the client data request;

adaptively generate a wait hint for return to the client, the adaptively generated wait hint including an indicated wait time, the wait time indicating an amount of time that to the client that the client is to wait before resending the client data request requesting message related data for the user to thereby reduce the load at the computer system, the adaptively generated wait hint generated by a wait hint generation algorithm, the wait hint generation algorithm configured to adaptively generate a wait hint ~~for each time the client data request requesting message related data for the user is received but not processed attempt in a plurality of attempts to send the data request~~ based on how many times the client data request was previously received but not processed prior attempts to send the data request have occurred, up to a specified number of times attempts after which the data request is to be processed; and

send a server response that includes the adaptively generated wait hint to the client to indicate to the client to wait the indicated wait time before resending the client data request requesting the message related data for the user.

28. (Previously Presented) The method as recited in claim 1, wherein receiving a server response including an adaptively generated wait hint comprises an act of receiving an adaptively generated wait hint having indicated wait time differing from the indicated wait hint time the wait hint generation algorithm is configured to generate for other attempts, in the plurality of attempts, to send the data request.